

IN THE CLAIMS

Please amend the claims as follows:

1-24. (Canceled)

25. (Currently Amended) A method for depositing titania, or titania containing as a thin films film on a substrate, the method comprising:

heating the substrate at a temperature below 250°C;

introducing a pre-vaporized reactive titania CVD precursor into a gas flow flowing through a coating region; and

applying energy to generate using an atmospheric pressure glow discharge plasma in the coating region and using the atmospheric pressure glow discharge plasma as a major source of reaction to deposit the thin film on the substrate improve film properties and film growth rates, when the substrate is heated at [[a]] the temperature below 250°C,

introducing a reactive titania CVD precursor which has been pre-vaporised into the introduced gas flow into a gas flowing through a coating region.

26. (Currently Amended) A method according to claim 25, wherein further comprising performing a post treatment of the coating with on the thin film using an atmospheric glow discharge plasma modifies the film to modify properties and structure of the thin film.

27. (Currently Amended) A method according to claim 26, wherein the glow discharge post treatment modifies the film stoichiometry of the thin film allowing control of film properties.

28. (Currently Amended) A method according to claim 29 25, wherein the gas flow

flowing into and through the coating region is a laminar flow is introduced into and through the coating region.

29. (Currently Amended) A method according to claim 25, wherein further comprising providing an extraction system is employed to control gas flow through the coating region which supports controlled flow.

30. (Currently Amended) A method according to claim 25, wherein further comprising providing a thermal control system is designed into in the coating region to maintain the substrate temperature at a desired level, wherein said thermal control system achieved by a utilizes gas coolant, or water coolant, or liquid coolant based cooling, or combinations thereof.

31. (Previously Presented) A method according to claim 30, wherein the thermal control system is configured to cool the coating region to reduce unwanted side reactions.

32. (Currently Amended) A method according to claim 29 25, wherein the reactive titania CVD precursor which is introduced in the coating region is an alkoxide of titanium or titanium tetrachloride.

33. (Currently Amended) A method according to claim 29 25, wherein films can be the thin film is deposited with a uniformity of at least +/- 20% and preferably a uniformity of at least +/- 10% and more preferably better than +/- 5%.

34. (Currently Amended) A method for depositing a thick film or layers of different composition on a substrate using the method according to claim 25, used to build up a thicker layer or layers of different composition by arranging sequential coating regions along a direction of movement of the substrate.

35. (Currently Amended) A method of coating a substrate using the method according to claim 25, ~~used~~ in combination with a different ~~coating~~ ~~depositing~~ method.

36. (Currently Amended) A method according to claim 25, wherein the glow discharge plasma is generated, between electrodes, by a low frequency source in which the frequency is ~~below 100 KHz and preferably below 30 KHz~~.

37. (Currently Amended) A method according to claim 36, wherein the ~~metal~~ electrodes are selected from a material that reduces heat generation.

38. (Previously Presented) A method according to claim 36, wherein the electrodes are made of brass.

39. (Currently Amended) A method according to claim 25, wherein power density of the plasma is ~~below 5 Wcm⁻² and preferably below 1 Wcm⁻² and more preferably below 0.5 Wcm⁻²~~.

40. (Currently Amended) A method according to claim 25, wherein ~~a peak growth rate of the thin film on the substrate is at least 10 nm per second, and up to several tens of nm per second~~, over 100 nm per second.

41. (Currently Amended) A method according to claim 25, wherein the ~~thin~~ film ~~can~~ ~~be~~ ~~is~~ deposited on preformed and/or thermally toughened substrates.

42. (Currently Amended) A method according to claim 25, wherein the ~~thin~~ film ~~can~~ ~~be~~ ~~is~~ deposited on temperature sensitive substrates including thermally preformed substrates and plastic substrate materials.

43. (Currently Amended) A method according to claim 25, wherein a level of water and oxygen are controlled to achieve target growth rates and to control unwanted side

reactions, the oxygen level being ~~below 5% and more preferably~~ below 1%, the water vapour levels being controlled ~~preferably below 1% and more preferably~~ below 0.1%.

44. (Currently Amended) A method according to claim 43, wherein the substrate upon which the thin film is deposited on is a suitable for coating moving substrates substrate of a continuous film or sheet, or a series of substrates supplied semi-continuously.

45. (Currently Amended) A method according to claim 25, wherein further comprising providing one or more gas flushing zones ~~is used~~ to allow introduction[[],] and removal[[],] of the substrates substrate from the coating region while maintaining integrity of the coating region gas composition in the coating region.

46. (Withdrawn -- Currently Amended) A substrate obtained by a method according to claim 25, wherein the thin film is photo-active, demonstrated by its ability to destroy organic materials on the a surface thereof and/or to modify surface energy on irradiation with UV or visible light.

47. (Withdrawn -- Currently Amended) A substrate according to claim 46, wherein the thin film has a degree of crystallinity.

48. (Withdrawn -- Currently Amended) A substrate according to claim 46, wherein the ~~deposited~~ thin film has an optical quality suitable for use on substrates required to be substantially transparent to the human eye and to be looked through.